CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 89-160

SITE CLEANUP REQUIREMENTS FOR:

TECHNICAL COATINGS COMPANY AND BENJAMIN MOORE AND COMPANY

FOR THE PROPERTY LOCATED AT:

1000 WALSH AVENUE
SANTA CLARA
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. SITE DESCRIPTION Technical Coatings Company (Technical Coatings), a wholly owned subsidiary of Benjamin Moore and Company, owns a 5.1 acre site located at 1000 Walsh Avenue in Santa Clara (hereinafter referred to as the Site). The facility manufactures coatings.

2. REGULATORY STATUS Technical Coatings Company (hereinafter referred to as a discharger) is a discharger because of their ownership of the Site from 1953 to 1963 and occupancy of the Site from 1953 to the present during which releases of chemicals have occurred. Benjamin Moore and Company (hereinafter referred to as a discharger) is a discharger because of their ownership of the Site from 1963 to the present during which releases of chemicals have occurred. These chemicals have affected the groundwater beneath the site and have migrated offsite.

3. SITE HISTORY Technical Coatings has been manufacturing paint, using solvents, at the Site since 1953. Benjamin Moore and Company purchased Technical Coatings as a wholly owned subsidiary in 1963. Toluene, xylene, methyl ethyl ketone, diesel, gasoline, and other solvents and chemicals were stored onsite in 14 underground storage tanks (see site location map) until 1983.

4. HYDROGEOLOGY The Site is underlaid by a thick sequence of alternating beds of clays and laterally continuous and discontinuous sands, silts, and gravels. Within the upper 100 feet of sediments the more permeable units appear to thicken and thin, and may pinch out. Four zones of permeable units that may be hydraulically interconnected, and consequently may behave as

laterally continuous aquifers, have been identified. From the ground surface downward, these are the A zone, which extends from approximately 5 to 20 feet below the ground surface; the B1 zone, which extends from approximately 20 to 40 feet below the surface; the B2 zone, which extends from approximately 40 to 50 feet below the surface; the C zone, which was encountered in one borehole (25C) at 93 to 102 feet below the surface. Additionally, a zone of gravelly sands in the A and B1 zones appears to occur along the east side of the Site.

The direction of groundwater flow is generally to the northeast in the A and B zones. Across the eastern part of the Site, however, the flow direction appears to be to the east, probably due to the presence of the gravelly sand deposits. Water level measurements indicate that, at least since 1986, a downward vertical gradient exists beneath the site. Water levels in the A and B1 zones have changed from about 7 and 11 feet below ground surface, respectively, in 1987, to about 14 and 15 feet below ground surface, currently. Wells that screen the B2 zone, completed across both the B1 and B2 zones (11EB, 12B, 8EB), have lower water levels than wells completed in the B1 zone only. This indicates that water levels are probably lower in the B2 zone than the B1 zone. Water levels in the only C zone well (25C), have been about 22 feet below ground surface.

5. ADJACENT FACILITIES Monsanto Company manufactured plastics and resins from 1950 to 1983 on the property at 2710 Lafayette Street in Santa Clara, currently owned by the CAMSI IV partnership (see site location map). In 1968, Hunter Technology Corporation leased a building on this property (at 985 Walsh Avenue) from Monsanto Company and manufactured printed circuit boards until 1983. Monsanto Company and Hunter Technology Corporation vacated this property in 1985, and it currently exists as an open field. The property is referred to as the CAMSI IV site and is located north of the Site, in the downgradient groundwater direction, across Walsh Avenue. Soil and groundwater sampling results from the CAMSI IV property indicate that volatile organic chemicals (VOCs) and other chemicals appear to have migrated onto the CAMSI IV property from the Site.

Felton Aluminum Company manufactures aluminum products on the property at 1090 Walsh Avenue (see site location map). Felton Aluminum Company stored gasoline in a 1000 gallon underground storage tank until December 1985, when the tank was removed. Soil and groundwater sampling results from this property indicate that a release of gasoline has occurred.

6. SOIL AND GROUNDWATER INVESTIGATIONS Subsurface investigations were conducted at the Site, beginning in 1982, and included the following activities: drilling of about 57 soil borings, installation of 28 groundwater monitoring wells, subsurface sampling and analyses, installation of 12

groundwater extraction wells, and installation of 4 soil gas wells. Twelve of the monitoring wells were properly destroyed under inspection of the Santa Clara Valley Water District. The results of these investigations indicate that VOCs have been released from this Site.

The highest chemical concentrations detected in soil and groundwater generally occur near the former tank locations, although the highest chemical concentrations in A zone soils occur immediately east of the office and warehouse.

For soils onsite, analytical results indicate up to 2,900 parts per million (ppm) of xylene, 1,000 ppm of ethyl benzene, and 16 ppm of benzene were detected. For groundwater onsite, analytical results indicate up to 3100 ppm of methyl isobutyl ketone, 140 ppm of toluene, and 620 ppm of xylene were detected.

For soil offsite, analytical results indicate that up to 5.8 ppm of methyl isobutyl ketone were detected, and for groundwater offsite, analytical results indicate up to 14 ppm of benzene were detected offsite.

Other chemicals detected in the soil and groundwater samples include naphthalene, methyl cyclohexane, methyl ethyl ketone, 1,1,1-trichloroethane, 1,1-dichloroethane, and trichloroethene. The latter three compounds reportedly have never been used onsite. Results of analyses on additional groundwater samples from offsite, downgradient wells, located on the CAMSI IV property, indicate that some of the pollutants released from the Site appear to have migrated offsite.

7. INTERIM REMEDIAL ACTIONS Interim remedial actions have been implemented. These actions include soil excavation and removal, groundwater extraction and treatment, and soil venting.

Interim remedial actions reported to be complete include replacement of the tanks with new double-lined tanks, excavation and removal of polluted soils in the former tank locations (1985), installation and operation of a groundwater extraction and treatment system to address onsite pollution (1987), and performance of a soil venting pilot study (1989). The effectiveness evaluation of the groundwater extraction system indicated that the system is only partially capable of preventing off-site migration of the pollution plume. The results of the soil venting pilot study indicated this is a feasible remedial alternative for vadose zone soils. Technical Coatings recently expanded their groundwater extraction system. A Workplan describing proposed interim remedial actions in detail was submitted May 1, 1989. Revisions to the Workplan were submitted on August 15, 1989 and the Workplan was accepted.

8. SCOPE OF THIS ORDER This order contains tasks for implementation and evaluation of interim remedial actions, and preparation and implementation of final remedial actions. These tasks are necessary to alleviate the threat to the environment posed by the migration of the groundwater plume of pollutants and to provide a substantive technical basis for designing and evaluating the effectiveness of final cleanup alternatives. Adoption of this order rescinds Orders 85-104 and 86-56 previously adopted for this Site.

9. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives and beneficial uses for South San Francisco Bay and contiguous surface and groundwaters.

10. The existing and potential beneficial uses of the groundwater underlying and adjacent to the facility include:

    a. Industrial process water supply
    b. Industrial service water supply
    c. Municipal and Domestic water supply
    d. Agricultural water supply

11. The dischargers have caused or permitted, and threaten to cause or permit waste to be discharged or deposited where it is or probably will be discharged to waters of the State and create or threaten to create a condition of pollution or nuisance.

12. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.

13. The Board has notified the dischargers and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

14. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the discharger shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.

2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. SPECIFICATIONS

1. The storage, handling, treatment or disposal of soil or groundwater containing pollutants shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. The dischargers shall conduct site investigation and monitoring activities as needed to define the current local hydrogeologic conditions, and the lateral and vertical extent of soil and groundwater pollution. Should monitoring results show evidence of pollutant migration, additional characterization of pollutant extent may be required. Within 60 days of the Executive Officer's determination and actual notice to Benjamin Moore and Company that Technical Coatings Company has failed to comply with the prohibitions, specifications, and/or provisions of this Order, Benjamin Moore and Company, as landowner, shall comply with the prohibitions, specifications, and/or provisions of this Order.

3. The cleanup goal for source-area soils is 1 ppm for total VOCs. Alternate cleanup goals may be proposed based on site specific data. If higher levels of VOCs are proposed, the discharger must demonstrate that cleanup to 1 ppm total VOCs is infeasible, that the alternate levels will not threaten the quality of waters of the State, and that human health and the environment are protected. Final cleanup goals for source-area soils must be acceptable to the Executive Officer.

4. Final cleanup levels and goals for polluted groundwater, onsite and offsite, shall be background water quality if feasible, but shall not be greater than the DHS drinking water Action Level (AL) or Maximum Contaminant Level (MCL), whichever is more stringent. If an AL or MCL has not been established, the level shall be in accordance with the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California", shall be based on an evaluation of the cost, effectiveness and a risk assessment

to determine affect on human health and the environment, and shall be approved by the Board. These levels shall have a goal of reducing the mobility, toxicity, and volume of pollutants.

5. If groundwater extraction and treatment is considered as an alternative, the feasibility of water reuse, reinjection, and disposal to the sanitary sewer must be evaluated. Based on the Regional Board Resolution 88-160, the discharger shall optimize, with a goal of 100%, the reclamation or reuse of groundwater extracted as a result of cleanup activities. The discharger shall not be found in violation of this Order if documented factors beyond the discharger's control prevent the discharger from attaining this goal, provided the discharger has made a good faith effort to attain this goal. If reuse or reinjection is part of a proposed alternative, an application for Waste Discharge Requirements may be required. If discharge to waters of the State is part of a proposed alternative, an application for an NPDES permit must be completed and submitted, and must include the evaluation of the feasibility of water reuse, reinjection, and disposal to the sanitary sewer.

C. PROVISIONS

1. The discharger shall comply with the Prohibitions and Specifications above, in accordance with the following time schedule and tasks:

TASKS AND COMPLETION DATES

a. TASK: SUBMIT REVISED SITE SAFETY, SAMPLING AND ANALYSIS, AND QUALITY ASSURANCE PROJECT PLANS:

Submit updated Site Safety, Sampling and Analysis, and Quality Assurance Project Plans acceptable to the Executive Officer, and that consider CERCLA regulations and guidance documents for format and content.

COMPLETION DATE: November 30, 1989

b. TASK: SUBMIT FINAL DESIGN PLANS FOR INTERIM REMEDIAL ACTIONS FOR GROUNDWATER:

Submit a final design report for the proposed interim remedial actions, acceptable to the Executive Officer, which describes the interceptor trench and groundwater extraction from additional wells. The report shall include, but need not be limited to, the following information: final engineering drawings illustrating the trench and extraction wells, and their connections to the treatment system; a description of the treatment

and disposal plan for extracted groundwater; a description of the excavation method for trench construction; a summary of the plan for soil aeration, removal and disposal; a plan-view map which includes the trench, all groundwater extraction and existing soil vent wells, and all wells to be sampled for groundwater levels and water quality.

COMPLETION DATE: March 15, 1990

c. TASK: COMPLETE IMPLEMENTATION OF INTERIM REMEDIAL ACTIONS FOR THE GROUNDWATER PLUME:

Submit a technical report acceptable to the Executive Officer documenting the implementation of interim remedial actions for groundwater, as proposed in the Workplan described in Finding 7 of this Order.

COMPLETION DATE: August 31, 1990

d. TASK: SUBMIT FINAL DESIGN PLANS FOR INTERIM REMEDIAL ACTIONS FOR SOILS:

Submit a final design report for the proposed interim remedial actions for polluted soils.

COMPLETION DATE: March 31, 1991

f. TASK: EVALUATE INTERIM REMEDIAL ACTIONS FOR GROUNDWATER:

Submit a technical report acceptable to the Executive Officer which evaluates the effectiveness of the interim groundwater remediation system. Such an evaluation shall include, but need not be limited to, an estimation of the flow capture zone of the extraction trench and wells, establishment of the cones of depression by field measurements, and presentation of chemical monitoring data. Additionally, saturated soil samples should be analyzed to indicate the effectiveness on polluted soils in the saturated zones.

COMPLETION DATE: July 31, 1991

f. TASK: COMPLETE IMPLEMENTATION OF INTERIM REMEDIAL ACTIONS FOR SOIL POLLUTION:

Submit a technical report acceptable to the Executive Officer documenting the implementation of interim remedial actions for soils, as proposed in

the Workplan described in Finding 7 of this Order.

COMPLETION DATE: August 31, 1991

g. TASK: EVALUATE INTERIM REMEDIAL ACTIONS FOR SOILS:

Submit a technical report acceptable to the Executive Officer which evaluates the effectiveness of the soils remediation activities. Such an evaluation shall include, but need not be limited to, an estimation of the pounds of chemicals extracted and a presentation of chemical monitoring data.

COMPLETION DATE: January 31, 1992

h. TASK: PROPOSE FINAL CLEANUP OBJECTIVES AND ACTIONS:

Submit a technical report acceptable to the Executive Officer that proposes final cleanup objectives and actions for all areas of the site where soil and groundwater pollution was detected. This report shall contain the results of the remedial investigation; an evaluation of the installed interim remedial measures; a feasibility study evaluating alternative final remedial measures; the recommended measures necessary to achieve final cleanup objectives; and the tasks and time schedule necessary to implement the recommended final remedial measures.

COMPLETION DATE: April 30, 1992

i. TASK: COMPLETE IMPLEMENTATION OF FINAL CLEANUP ACTIONS:

Submit a technical report acceptable to the Executive Officer documenting the implementation of final cleanup actions as proposed and accepted by the Executive Officer in accordance with Task h. above.

COMPLETION DATE: 60 days after implementation of the actions as proposed and accepted by the Executive Officer in accordance with Task h. above.

j. TASK: SUBMIT FIVE YEAR STATUS REPORT:

Submit a technical report acceptable to the Executive Officer containing the following: 1) results of any additional investigative work completed; 2) an evaluation of the effectiveness of installed final cleanup measures; 3) additional recommended measures to achieve final cleanup objectives

and goals, if necessary; 4) a comparison of previous expected costs with the costs incurred and projected costs necessary to achieve cleanup objectives and goals; 5) the tasks and time schedule necessary to implement any additional final cleanup measures; and 6) recommended measures for reducing Board oversight. This report shall also describe the reuse of extracted groundwater, evaluate and document the removal and/or cleanup of polluted groundwater, and evaluate and document the removal and/or cleanup of polluted soil. If safe drinking water levels have not been achieved through continued groundwater extraction and/or soil remediation, this report shall also contain an evaluation addressing whether it is technically feasible to achieve drinking-water quality onsite, and if so, a proposal for procedures to do so.

COMPLETION DATE: September 30, 1994

2. The submittal of technical reports evaluating interim and final remedial measures will include a projection of the cost, effectiveness, benefits, and impact on public health, welfare, and environment of each alternative measure. The remedial investigation and feasibility study shall consider the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300); Section 25356.1 (c) of the California Health and Safety Code; CERCLA guidance documents with reference to Remedial Investigation, Feasibility Studies, and Removal Actions; and the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California".

3. If the discharger(s) are delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the discharger(s) shall promptly notify the Executive Officer and the Board may consider revision to this Order.

4. The discharger shall submit to the Regional Board acceptable reports on compliance with the requirements of this Order, and acceptable activity monitoring reports that contain descriptions and results of work performed. These reports are to be submitted according to a program prescribed by the Regional Board and outlined below.

a. ON A QUARTERLY BASIS, technical reports on status of compliance with this Order shall be submitted to the Board, commencing on January 15, 1990. Each report shall cover the previous quarter and shall include, but are not limited to, the following:

1) Summary of work completed since submittal of the previous report, and work projected to be completed by the time of the next report.

2) Identification of any obstacles which may threaten compliance with the schedule of this Order and what actions are being taken to overcome these obstacles.

3) Written notification which clarifies the reasons for non-compliance with any requirement of this Order, and which proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order.

b. ON A BIANNUAL BASIS (TWICE EACH YEAR), technical reports on soil and groundwater monitoring shall be submitted to the Board, commencing on July 15, 1990, and covering the previous six months. The biannual reports may include the quarterly report due concurrently, beginning with the July 15, 1990 quarterly report included in the July 15, 1990 biannual report. The biannual reports shall include, but need not be limited to, the following information:

1) Results of annual water quality sampling analyses for all wells using analytical method 8240 (open scan), and results of biannual water quality sampling analyses for wells T18A, T19B, T20A, T21B, T43A, and T44B, and groundwater pollution plume maps based on these results.

2) Quarterly updated water table and piezometric surface maps, based on the most recent water level measurements for all affected water bearing zones for all onsite and offsite wells, in coordination with the adjacent CAMSI IV and Felton Aluminum sites. The first set of data shall be reported in the biannual report due January 15, 1990.

3) A cumulative tabulation of volume of extracted groundwater, biannual chemical analysis results for all groundwater extraction wells, and pounds of chemicals removed.

4) A cumulative tabulation of all well construction details, and quarterly water level measurements.

5) Results of soil vapor sampling analyses, soil pollution plume maps based on these results, a cumulative tabulation of chemical analysis results for all soil vapor extraction wells, and a cumulative tabulation of pounds of chemicals removed.

6) Reference diagrams including geologic cross-sections describing the hydrogeological setting of the Site, and appropriately scaled and detailed base maps showing the location of all monitoring wells and extraction wells, and identifying adjacent facilities and structures.

7) Identification and notification of non-compliance with groundwater monitoring requirements of this Order, as described in Provisions 4.A.2. and 4.A.3.

c. ON AN ANNUAL BASIS, technical reports on the progress of compliance with all requirements of this Order shall be submitted to the Board, commencing on January 15, 1991, and covering the previous year. Annual reports may include quarterly and biannual reports due concurrently. The progress reports shall include, but need not be limited to, progress on the site investigation and remedial actions, operation of interim and final remedial actions and /or systems, and the feasibility of meeting groundwater and soil cleanup goals.

d. Reporting and monitoring requirements may be reviewed at any time after adoption of this Order upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer or the Regional Board.

5. All hydrogeological plans, specifications, reports, and documents shall be signed by or stamped with the seal of a registered geologist or professional engineer, or a certified engineering geologist .

6. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain Quality Assurance/Quality Control records for Board review.

7. The discharger(s) shall maintain in good working order, and operate, as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.

8. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, shall be provided to the following agencies:

   a. Santa Clara Valley Water District (Tom Iwamura)
   b. Santa Clara County Health Department (Lee Esquibel)
   c. City of Santa Clara (Dave Parker)

d. State Department of Health Services/TSCD (Howard Hatayama)

9. The discharger(s) shall permit the Board or its authorized representative, in accordance with Section 13267(c) of the California Water Code:

a. Entry upon premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.

b. Access to copy any records required to be kept under the terms and conditions of this Order.

c. Inspection of any monitoring equipment or methodology implemented in response to this Order.

d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.

10. The discharger(s) shall file a report on any changes in Site occupancy and ownership associated with the facility described in this Order.

11. If any hazardous substance is discharged in or on any waters of the state, or discharged and deposited where it is, or probably will be discharged in or on any waters of the state, the discharger shall report such discharge to this Regional Board, at (415) 464-1255 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-business hours. A written report shall be filed with the Regional Board within five (5) working days and shall contain information relative to: the nature of waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control, and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effect, corrective measures that have been taken or planned, and a schedule of these activities, and persons/agencies notified.

12. This Order supersedes the existing Orders 85-104 and 86-56 and they are hereby rescinded with adoption of this Order.

13. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on September 20, 1989.

Steven R. Ritchie
Executive Officer